

**the
PURINA[®]
HORSE
BOOK**



Dr. Les Breuer, Mgr. of Purina Horse Research, explains



What Purina can do for You...

For you and all members of America's horse industry, Purina can take the responsibility for leadership in research on horse feeds. You can see how Purina does this research for you at our Horse Research Center, located on the 820-acre Purina Research Farm at Gray Summit, Missouri, just west of St. Louis. Here we maintain a herd of brood mares. Feeding experiments of many types are carried out with these mares and their foals on a continuous basis year after year.

As a result, Purina can make constant improvements in rations for horses of all ages with varying nutritional requirements. Your horse gets the advantage of all that is known about horse nutri-

tion including everything Purina has learned every time you open a bag with the Checkerboard. You need look no further than your nearest Purina Chows dealer.

Everything that goes into a Purina bag fills an established nutritional requirement. There are no superfluous or exotic additives and no costly ingredients that can be replaced by more common feedstuffs.

As a result of this practical approach to horse feeding, you can give your horse the best possible nutrition at the lowest possible cost. You get what you pay for when you buy Purina Horse Chows, and what you buy is exactly what your horses need—no more, no less.

Purina deeply appreciates the help of these breeding farms whose foals appear on these pages.

SAD AL BARI Arabian Farm, Memphis, Tennessee; Cisna Stock Farm, Gladstone, Illinois;

PURINA HORSE FEEDING PROGRAMS



Main unit of the Purina Horse Research Center, Gray Summit, Missouri.

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Note: Purina, Chow, Chows, Omolene, Check-R-Mix, Checkers, Big 'Un and Horse Plus are Registered Trademarks of Ralston Purina Company.



PURINA HORSE CHOW CHECKERS

PURINA'S BEST
COMPLETE FEED



A complete feed contains everything a horse needs to eat: hay for roughage, grain, plus all the vitamins and minerals you might normally add. Purina Horse Chow Checkers combines all these ingredients in pellets to make handling easier and to increase digestibility.

Besides being recommended for mature horses, Horse Chow Checkers are fundamental to Purina's performance horse ration and may also be used in a complete feed program for brood mares. These two programs are described in subsequent sections.

The advantages of using a complete feed are numerous. Since you do not have to feed additional roughage, you eliminate the need for pasture space and the problems of hay storage—the fire hazard, the dust and the awkward lifting.

This makes Horse Chow Checkers ideal for horses stabled in urban areas. By using highly digesti-

ble ingredients, Horse Chow Checkers reduces the volume of manure, which helps lessen the problem of manure disposal for stable managers.

Freedom from handling hay makes traveling easier for both you and your horse. The horse has more room in the trailer if you haul 50-pound bags of Horse Chow Checkers instead of bales of hay. The consistent high quality of Horse Chow Checkers assures that a change in diet due to local or low quality hay or grain does not damage your chances for success in an event you've traveled miles to compete in, such as a horse show or rodeo.

Since Horse Chow Checkers are pelleted, you can handle them in bulk instead of just 50-pound bags. This makes them ideal for automated feeding systems. If you have the capacity for bulk storage, you can save the cost of forty 50-pound bags per ton by ordering Horse Chow Checkers in bulk.

How To Feed Purina Horse Chow Checkers

To place horses on a complete feed program, start by feeding Horse Chow Checkers in place of all grain. Continue feeding hay as usual, making sure it is free

from dust and mold, for the first two days. Then decrease the daily allowance of hay throughout the first week. After this the hay can be discontinued completely.

MATURE HORSES

Pounds Weight of Mature Horse	Start With Pounds Horse Chow Checkers On First Day*	Increase To Pounds Horse Chow Checkers \pm 10% Per Day by End of First Week
500	5	7.5
600	6	9
700	7	10.5
800	8	12
900	9	13.5
1,000	10	15
1,100	11	16.5
1,200	12	18

*Divide into two equal morning and evening feedings; feeding three times a day is preferable if convenient.

The amount in the right-hand column, $1\frac{1}{2}$ pounds per 100 pounds of body weight per day, is intended as a maintenance allowance with a probable variation of $\pm 10\%$ for different horses in good health and relatively free from worms. You should be prepared to adjust this daily allowance up or down 10% for horses fed individually for maintenance over long periods of time, depending on their response to complete feed, as indicated by changes in body weight and condition.

Controlled weight loss can be accomplished by lowering the daily allowance of pellets below maintenance levels. A controlled weight gain of one pound per day in a mature horse can be achieved by feeding approximately six pounds of pellets per day above the maintenance level. Mature horses should not be fed to gain more than $1\frac{1}{2}$ pounds per day, or more than nine pounds above maintenance level, as this may exceed the limit of digestive tract capacity.

A 2-lb. Coffee Can Holds Approximately $2\frac{3}{4}$ lbs. of Purina Horse Chow Checkers

**See page 30 for information on coffee can measurement.*

PURINA HORSE CHOW CHECKERS

Nutrient Analysis

Crude protein not less than.....12.5%
Crude fat not less than.....1.5%
Crude fiber not more than.....25.0%

Calcium not less than.....0.6%
Phosphorus not less than.....0.4%
Digestible Energy.....1,150 Cal./lb.
Vitamins and trace minerals added to meet total requirements.

Ingredients: Soybean meal and/or linseed meal, ground yellow corn and/or ground grain sorghums, ground barley and/or ground oats, alfalfa meal, cut alfalfa, wheat middlings, cane molasses, vitamin A supplement, dicalcium phosphate, iodized salt, iron oxide, manganous oxide, copper oxide, cobalt carbonate, zinc oxide.



PURINA HORSE CHOW CHECKERS

SHOW AND PERFORMANCE HORSES

Race Horses

Horses in Training

If you have made an investment in a horse's training, you have the right to expect superior performance. These calculations are provided for those who have invested their time and money in extra performance. They make use of standard line Purina products but are not packaged and available commercially as performance horse rations.

A complete feed program is recommended for performance horses in order to minimize the variability in roughage sources. For this reason Purina Horse Chow



Checkers is the fundamental ingredient. Purina Horse Charge is the source for extra protein.

Performance horses require a 60-70% increase in energy over maintenance level. You may choose between a high and a low energy combination by varying the amount of either Purina Omolene or the oats and corn mixture which your trainer may be using. Both energy combinations are well fortified with all necessary vitamins and trace minerals. There is no need for further dietary supplementation.

CALCULATIONS ON PERFORMANCE HORSE RATIONS

Lower Energy Combination

15 lb. Purina Horse Chow Checkers

6 lb. Purina Omolene Checkers

OR

15 lb. Purina Horse Chow Checkers

1 lb. Purina Horse Charge

5 lb. Purina Omolene

Analysis:

Protein*	=	13.0%
Digestible Energy	=	25,000 Calories
Calcium	=	0.8%
Phosphorus	=	0.45%

Higher Energy Combination

15 lb. Purina Horse Chow Checkers

8 lb. Purina Omolene Checkers

OR

15 lb. Purina Horse Chow Checkers

1 lb. Purina Horse Charge

7 lb. Purina Omolene

Analysis:

Protein*	=	13.0%
Digestible Energy	=	28,000 Calories
Calcium	=	0.75%
Phosphorus	=	0.45%

*To raise protein to 14% add another pound of Purina Horse Charge. This will also raise calcium and phosphorus but will retain the same Ca:P ratio.

A complete feed program offers definite advantages to breeding farm operators and others who must manage several brood mares at one location.

If you need to utilize available pasture or hay and can feed mares as individuals, you will probably prefer Purina's Breeding Horse Chow program described on pages 24-25 or the Omolene Checkers program on pages 12-13. If you also wish to supply your own grains, you will want to employ the Purina Horse Charge program for brood mares outlined on pages 17-18.

To place brood mares on a complete feed program, start by feed-

BROOD MARES

ing Horse Chow Checkers in place of all grain. Continue feeding hay as usual, making sure it is free from dust and mold, for the first two days. Then decrease the daily allowance of hay throughout the first week. After this the hay can be discontinued completely.

Brood mares should be fed three times a day. By feeding three times daily you not only help prevent social problems, you condition the mares for the larger amounts they will be fed during lactation.

BROOD MARES BEFORE FOALING

Complete Gestation Program

Pounds Weight of Brood Mare	Start With Total of Pounds Horse Chow Checkers On 1st Day Divided into 3 Feedings	Increase To Pounds Horse Chow Checkers \pm 10% Per Day By End of First Week
800	8	12
900	9	13.5
1,000	10	15
1,100	11	16.5
1,200	12	18

The amount in the right-hand column, $1\frac{1}{2}$ pounds per 100 pounds of body weight per day, is intended as a maintenance allowance with a probable variation of $\pm 10\%$ for different mares in good health and relatively free from worms. You should be prepared to adjust the daily allowance up or down 10% for mares fed individually for maintenance over long periods of time, depending on their response to complete feed, as indicated by

changes in body weight and condition. Controlled weight loss can be accomplished by lowering the daily allowance of pellets below maintenance levels.

During the last ninety days of gestation, the brood mare should be fed to gain weight equal to the birth weight of the foal she is producing. The allowance of pellets may be increased six to nine pounds over maintenance to the dry mare to improve the condition of a thin mare so she

will breed. Brood mares should not be fed to gain more than 1½ pounds per day, or more than nine pounds above maintenance levels, as this may exceed the limit of digestive tract capacity.

The amount in the center column provides an additional nine pounds per day above the maintenance level to meet the requirements for producing 30 pounds of milk daily. Proportionately more or less will be required by the heavy or light milker.

In other words, never feed a lactating mare more than the amounts shown in the MAXIMUM column. This points out the difficulty in trying to get a thin mare



BROOD MARES AFTER FOALING Complete Lactation Program

Pounds Weight of Brood Mare	Pounds Horse Chow Checkers Per Day	MAXIMUM
800	20	20
900	22.5	22.5
1,000	24	25
1,100	25.5	27.5
1,200	27	30

in condition for rebreeding soon after she foals. About the maximum daily gain you can get on her safely is ½ pound per day if she is a good milker.

In the case of the lactating mare, feeding her for a high rate of gain in addition to the requirements for maintenance and milk production would raise her intake to a level that might exceed her digestive tract capacity.

For safety you should stay near

the limit of 2½ pounds per 100 pounds of body weight.

STALLIONS

Stallions should be fed by body weight according to the program for mature horses outlined on page 3 when not in breeding season. During breeding season the increased activity will require additional energy.

MANAGEMENT RECOMMENDATIONS FOR COMPLETE FEED PROGRAMS

Horses with a very active or nervous temperament are predisposed to wood chewing and other stable vices. This stems from boredom coupled with an innate desire to gnaw and experience the sensation of a full digestive tract.

Before the horse was domesticated by man, it depended entirely on roughage for its nutrient intake. Since most of the available wild grasses provided very little nutrition, the horse had to eat constantly to take in enough fill to stay alive. The survival instinct prompted the horse to nibble instead of eat regular meals, and the habit still persists today.

Complete feeding programs are sometimes linked to wood chewing, even though other factors contribute more directly to it. In order to prevent wood chewing and associated stable vices, the following management practices are recommended.

1. Feed the Horse Chow Checkers at least two and preferably three times a day. This increases the amount of time per day that the horse spends eating and filling his digestive system. It helps the horse overcome the nibbling instinct. Feeding three times daily is especially important for brood mares during gestation and lactation.

2. Although Horse Chow Checkers are nutritionally complete,

the horse's appetite may be satisfied further by:

- a) making salt readily available along with Purina Horse Mineral 12:12 (see page 27) in a two-compartment feeder protected from the weather.

- b) providing three to five pounds of low-quality but clean hay after the evening feeding.

The minerals and hay are not necessary for nutritional health. They simply occupy the horse's time, satisfy cravings and create intestinal fill. You do not need them if your horse shows no signs of nervousness or boredom, because Purina Horse Chow Checkers provide all the nutrients the horse needs. Additional vitamin supplements offer no benefit in this respect.

3. Exercise the horse daily either by riding, longeing, or by using a large exercise pen or paddock. This not only occupies his time and helps dispel nervousness and boredom, it makes him a healthier horse. Also, fatigue from strenuous exercise will inhibit wood chewing when the horse is returned to close quarters.

4. Paint a wood-chewing inhibitor such as Purina Anti-Crib on exposed wood surfaces. When you repair or replace facilities, use non-wood building materials or cap the edges of exposed wood surfaces with metal strips.



PURINA OMOLENE

PURINA'S BEST SWEET FEED

A sweet feed is a mixture of grains with molasses. A handful usually feels sticky from the molasses, which makes it palatable to horses. Sweet feeds need to be fed either with hay or pasture as a source of roughage.

In most sweet feeds you can see the separate grains mixed together, mainly corn and oats, but here the similarities end. Vitamins and minerals are added to the better sweet feeds. They are contained in the minor ingredi-

ents that you can see on the feed tag but not in a handful of feed, because they are added in microscopic amounts.

Purina Omolene is Purina's best sweet feed, because Purina Research has continued to improve it for more than 75 years. You can be confident that an Omolene feeding program with your hay or pasture provides an adequate supply of all the nutrients necessary to meet or exceed the National Research Council's recommendations on nutrient requirements of mature horses.

- Protein and the major minerals, Calcium and Phosphorus, are in adequate supply.

- Calcium and Phosphorus are

provided in the proper ratio.

- All trace minerals known to be beneficial to horses have been added.
- Vitamin A is added.

Everything in Purina Omolene is there for a reason—to fill an established nutritional requirement for your horse. Consequently, when you select a sweet feed to use with your hay or pasture, you can give your horse the best possible nutrition with Purina Omolene.

HOW TO FEED PURINA OMOLENE

Start with the minimum amount shown for your horse's weight, which is equal to one-half of 1% of the horse's body weight. Levels fed above the minimum will depend on the horse's condition and the availability and quality of hay or pasture. Levels fed should not exceed 1½% of the horse's body weight to avoid colic and founder.

MATURE HORSES

Pounds Weight of Mature Horse	Minimum Pounds Purina Omolene Per Day	Maximum 1½% of Body Weight	Recommended Pounds Hay* Per Day
500	2.5	7.5	5- 7.5
600	3.0	9.0	6- 9
700	3.5	10.5	7-10.5
800	4.0	12.0	8-12
900	4.5	13.5	9-13.5
1,000	5.0	15.0	10-15
1,100	5.5	16.5	11-16.5
1,200	6.0	18.0	12-18

*Or an equivalent amount of pasture.

A 2-lb. Coffee Can Holds Approximately 2 lbs. of Purina Omolene

**See page 30 for information on coffee can measurement.*

PURINA OMOLENE

Nutrient Analysis

Crude protein not less than.....	10%	Calcium not less than.....	0.5%
Crude fat not less than.....	2%	Phosphorus not less than.....	0.3%
Crude fiber not more than.....	9%	Digestible Energy.....	1,500 Cal./lb.
		Vitamins and trace minerals added to meet total requirements.	

Ingredients: Soybean meal and/or linseed meal, cracked corn, rolled barley and/or crimped oats, alfalfa meal, cane molasses, vitamin A supplement, calcium carbonate, dicalcium phosphate, iodized salt, iron oxide, manganese sulfate, manganous oxide, copper oxide, cobalt carbonate, zinc oxide.



PURINA OMOLENE CHECKERS

PURINA'S ALL-IN-ONE RATION FOR BREEDING FARMS AND TRAINING STABLES

Purina Omolene Checkers incorporates all recent advances in knowledge of the nutritional needs of horses. It is fortified with high quality protein, vitamins and minerals to meet the higher nutrient requirements of show and performance horses, breeding horses and growing horses weighing over 700 pounds when fed according to the programs shown.

The Omolene Checkers program helps breeding farms and training stables save labor by handling just one ration. It eliminates the need to add other products such as Purina Horse Charge to the regular feeding program during certain periods in horses' development. It provides many of the conveniences of complete feed, except that roughage must also be provided.

SHOW AND PERFORMANCE HORSES

Show and performance horses and horses in training require greater individual attention and skill in feeding than any other class of horse. Since overfeeding and underfeeding will both result in inferior performance, feeding levels must be adjusted carefully to the condition and activity of each horse. Overfeeding may also



Omolene Checkers can be fed along with hay or pasture as the sole ration to all horses except suckling and weanling foals under 700 pounds for which Purina Big 'Un is recommended. No further dietary supplementation is beneficial to the normal, healthy, well-groomed and cared-for horse. Omolene Checkers and Big 'Un are both manufactured in pellet form which assures uniform ration intake and eliminates sorting problems that waste feed.

Putting Omolene Checkers into pellet form also makes bulk handling possible. If you can store larger amounts of feed in a bulk bin, buying Omolene Checkers in bulk saves the cost of forty 50-pound bags per ton. The pelleting process reduces problems from feed drying out or caking in cold weather and will greatly reduce molding problems.

lead to problems such as stocking-up or edema, hives or bumps, tying-up, overheating, colic, founder and other problems. For a performance horse program utilizing Purina Horse Chow Checkers to supply roughage, see page 4.

The 300% difference between the amounts shown in the MINIMUM and

MAXIMUM columns reflect the difference in requirement between a relatively inactive mature halter horse and a horse still developing or undergoing hard training or performance. A performance horse's feed intake should be adjusted frequently according to its daily activities. When high levels of feeding are employed, the horse should be fed three times a day in feedings relatively equal in size.

To estimate the amount of Omolene Checkers required, start with the

amount in the MINIMUM column shown for the horse's weight in Table 1. Then add to it the amount necessary to meet the horse's daily energy requirement for work as calculated in Table 2. This will result in the total pounds of Omolene Checkers required. However, if this amount is greater than the amount shown in the MAXIMUM column which is 1½% of the horse's body weight, do not exceed the MAXIMUM amount to avoid colic and founder.

TABLE 1. Show and Performance Horses

Lbs. Weight of Mature Horse	Min. Lbs. Omolene Checkers Per Day	Maximum 1½% of Body Weight	Recommended Lbs. Hay* Per Day
800	4.0	12.0	8-12
900	4.5	13.5	9-13.5
1,000	5.0	15.0	10-15
1,100	5.5	16.5	11-16.5
1,200	6.0	18.0	12-18

*Or an equivalent amount of pasture.

TABLE 2. Digestible Energy Requirement For Work and Weight Gain

	Calories
Light Work—slow trot, some cantering, no significant sweating	
1,600 Cal./hr. light work X _____ hrs./day of work=_____	
Moderate Work—canter, slight sweating	
3,200 Cal./hr. moderate work X _____ hrs./day of work=_____	
Heavy Work—galloping, jumping, heavy sweating	
9,600 Cal./hr. heavy work X _____ hrs./day of work=_____	
Weight Gain—	
7,500 Cal./lb. weight gain X _____ lb. per day gain=_____	
	Total Calories Required
<hr/>	
Divide Total Calories Required for Work by 1,500 Calories per pound of Omolene Checkers to get Pounds Omolene Checkers Required for Work.	
	Pounds Omolene Checkers Required for Work
<hr/>	
Calories per lb. of Omolene Checkers	1,500
	Total Calories Required for Work
	<hr/>

	Omolene Checkers
Minimum Lb. Omolene Checkers Required Per Day for Horse's Weight (from Table 1)	_____ Lb.
Pounds Omolene Checkers Required for Work and/or Weight Gain (from Table 2)	_____ Lb.
	+
TOTAL LB. OMOLENE CHECKERS TO FEED PER DAY	_____ Lb.
<hr/>	
(Do not exceed amount shown in MAXIMUM column)	

Certain show horses will show responses in hair coat condition by the addition to their diet of a source of polyunsaturated fat such as is present in Purina Horse-Plus Liquid. Also certain performance horses will respond to injectable nutrients in terms of blood counts, et cetera.

BROOD MARES

Brood mares should be fed according to a year-round program as pictured on p. 17. Shown here are the three feeding programs that will meet the brood mare's needs at the three different periods in her development.

Program I—

90 Days Before Foaling

This feeding program will provide the protein, minerals and vitamins required for proper fetal development. Start with the minimum amount shown for the mare's weight. Excessive condition may result where a surplus of high quality hay or pasture is available. If this occurs, the amount of Omolene Checkers fed should be reduced.

If the mares are in poor condition and the roughage supply is poor or limited,

more Omolene Checkers may be fed to obtain the desired condition. Five additional pounds of Omolene Checkers daily will result in a weight gain of approximately one pound per day. Amounts of Omolene Checkers up to 1½% of body weight may be fed safely as long as minimum roughage requirements are met, at least 1 pound per 100 pounds of body weight as shown in the tables. Adequate feeding space should also be provided so that under group feeding situations all mares will have equal access to the feed.

Levels of 5-6 pounds of Omolene Checkers may be fed once daily. Levels of 10-12 pounds should be fed in two equal feedings daily. Higher levels should be divided into three equal feedings daily. This will allow better utilization of the feed and reduce the risks of colic and founder occurring.

PROGRAM I

Brood Mares—90 Days Before Foaling—for Gestating or Open Mares			
Lbs. Weight of Mare	Min. Lbs. Omolene Checkers Per Day	Recommended Max. Lbs. Omolene Checkers Per Day	Pounds Hay* Per Day
800	5	9	8-12
900	5.5	10	9-13.5
1,000	6	11	10-15
1,100	6.5	12	11-16.5
1,200	7	13	12-18

*Or an equivalent amount of pasture.

Program II—90 Days After Foaling

This feeding program will provide the additional energy, protein, vitamins and minerals required by the lactating mare. Start with the minimum amount shown for the mare's weight. If a mare is a heavy milk producer, she may require higher levels of Omolene Checkers to maintain body condition and fertility along with the

high level of milk production. Levels fed up to 1½% of body weight can be safely fed if roughage requirements are met and adequate feeder space is provided. As milk production drops after 2-4 months of lactation, reduce the amount fed of Omolene Checkers to prevent developing excessive condition in the mares.

PROGRAM II

Brood Mares—90 Days After Foaling—for Lactating Mares			
Lbs. Weight of Mare	Min. Lbs. Omolene Checkers Per Day	Recommended Max. Lbs. Omolene Checkers Per Day	Pounds Hay* Per Day
800	12	13	8-12
900	12.5	14.5	9-13.5
1,000	13	16	10-15
1,100	13.5	17.5	11-16.5
1,200	14	19	12-18

*Or an equivalent amount of pasture.

Program III—Maintaining Dry Mares (Pregnant or Barren)

During the six months in between the 90 days of lactation and the 90 days before the next foaling, brood mares may be kept in good condition on Program III. This program will maintain the breeding horses in a condition for optimal reproduction and for the most

favorable presentation to prospective buyers of breeding stock and others who might view them. If mares become overly fat due to excessive nutrient consumption in forage and feed, the amount of feed furnished should be reduced.

PROGRAM III

Brood Mares—6 Months In Between—for Dry Mares			
Lbs. Weight of Mare	Min. Lbs. Omolene Checkers Per Day	Recommended Max. Lbs. Omolene Checkers Per Day	Pounds Hay* Per Day
800	4	12	8-12
900	4.5	13.5	9-13.5
1,000	5	15	10-15
1,100	5.5	16.5	11-16.5
1,200	6	18	12-18

*Or an equivalent amount of pasture.

STALLIONS

The amount of Omolene Checkers fed to stallions may be adjusted depending on their activity to obtain desired condition. The performance of problem stallions may be improved by fortifying their diet with additional Vitamin E and polyunsaturated fats furnished by products such as Purina Horse-Plus Liquid.

STALLIONS

Lbs. Weight of Stallion	Lbs. Omolene Checkers Per Day (During Non-Breeding Season)	Lbs. Omolene Checkers Per Day (During Breeding Season)	Pounds Hay* Per Day
800	4	8	8-12
900	4.5	9	9-13.5
1,000	5	10	10-15
1,100	5.5	11	11-16.5
1,200	6	12	12-18

*Or an equivalent amount of pasture.

YEARLINGS OVER 700 POUNDS

The programs for yearlings will work best when the foals have been fed up to the weight of 700 pounds on either of the Purina Big 'Un programs on page 24. As in the two Big 'Un programs the choice to use hay or Horse Chow Checkers as a roughage source will depend on the cost and availability of quality hay. The use of Horse Chow Checkers offers the added benefit of complete dietary control.

Both programs will provide the nutrients for adequate tissue and bone development while avoiding

excessive fattening of the horses. Depending on the yearlings' amount of exercise and body type, the levels of feeding may be altered slightly to obtain the desired condition.

Caution should be exerted in increasing the amounts fed, however, to avoid "stocking-up" or edema problems, especially in the case of horses receiving limited exercise. To avoid digestive disturbances, no less than the recommended levels of hay should be fed, and the grain should be fed at least twice daily.

PROGRAM I—Yearling Program with Hay or Pasture

	MINIMUM POUNDS		MAXIMUM POUNDS	
Pounds Weight	Omolene Checkers Per Day	Omolene Checkers Per Day	Pounds Hay Per Day	
700-800	8	10	7-8	
800-900	7	9	8-9	
900-1,000	7	8	9-10	

PROGRAM II—Yearling Program with No Hay or Pasture

	MINIMUM POUNDS		MAXIMUM POUNDS	
Pounds Weight	Omolene Checkers Per Day	Horse Chow Checkers Per Day	Omolene Checkers Per Day	Horse Chow Checkers Per Day
700-800	4	11	4.5	12.5
800-900	4	11	4.5	12.5
900-1,000	4	11	4.5	12.5

A 2-lb. Coffee Can Holds Approximately 2¾ lbs. of Omolene Checkers.

**See page 30 for information on coffee can measurement.*

PURINA OMOLENE CHECKERS

Nutrient Analysis

Crude protein not less than.....13.0%
Crude fat not less than.....2.0%
Crude fiber not more than.....9.0%

Calcium not less than.....0.6%
Phosphorus not less than.....0.45%
Digestible Energy.....1,500 Cal./lb.
Vitamins and trace minerals added to meet total requirements.

Ingredients: Soybean meal and/or linseed meal, ground yellow corn and/or ground grain sorghums, ground barley and/or ground oats, alfalfa meal, wheat middlings, cane molasses, vitamin A supplement, vitamin E supplement, D activated animal sterol, vitamin B₁₂ supplement, niacin riboflavin supplement, calcium pantothenate, choline chloride, defluorinated phosphate, calcium carbonate, iodized salt, copper sulfate, manganous oxide, cobalt carbonate, zinc oxide.



PURINA HORSE CHARGE

PURINA'S BEST
COMPLETE SUPPLEMENT



A complete supplement contains a significant amount of protein plus all the vitamins and minerals the horse requires. Although it is pelleted it is not the same as a complete feed, because it does not contain roughage or energy sources.

Purina Horse Charge differs from Purina Omolene and Omolene Checkers, because they provide energy sources in the form of grains. It differs from Horse Chow Checkers in that they provide both energy sources and roughage.

Purina Horse Charge is a major protein supplement. You will need no other vitamin or mineral supplementation with it. In this respect Horse Charge also differs from Purina Horse-Plus, Purina Horse Mineral 12:12, and other vitamin or mineral supplements, in that it provides both vitamins and minerals and a source of protein.



Horse Charge is like no other supplement you may have tried. Because it contains 33% protein, it is the building block for several rations you can create on your own. In several areas your Purina Dealer can mix them for you, if he has Check-R-Mix facilities.

When you follow one of these programs, you can be confident that it has already been tried and proven by Purina Research. For best results pour the Omolene first, then the Horse Charge on top, and mix them together by hand.

If hay or pasture is poor, feed two pounds Horse Charge per day, instead of one pound as shown in the table on the next page. As with other programs, feed at least two and preferably three times a day to help the confined horse overcome the instinct to gnaw.

MATURE HORSES

Combine Horse Charge with Purina Omolene*

Feed with Hay or Pasture†

Pounds Weight of Mature Horse	Pounds Horse Charge Per Day	Minimum Pounds Purina Omolene Per Day	Recommended Maximum Pounds Omolene For Daily Maintenance
500	1	2.5	5
600	1	3	6
700	1	3.5	7
800	1	4	8
900	1	4.5	9
1,000	1	5	10
1,100	1	5.5	11
1,200	1	6	12

*Or your own mixture of available grains.

†Minimum of 1 lb. hay or pasture equivalent per 100 lb. of body weight.

Start with the minimum amount of Purina Omolene shown for the horse's weight. Levels fed above the minimum will depend on the horse's condition and level of activity. Levels fed should never exceed 1½% of the horse's body weight to avoid colic and founder.

SHOW AND PERFORMANCE HORSES

Race Horses Horses in Training

Purina Horse Charge is used to raise the protein, vitamin and mineral levels in Purina's show and performance programs, except for the Omolene Checkers

program described on page 11. For a complete feed program in which no additional roughage is required, see page 4 in the Purina Horse Chow Checkers section.

SHOW AND PERFORMANCE HORSES

Combine Horse Charge with Purina Omolene*

Pounds Weight of Mature Horse	Pounds Horse Charge Per Day	Minimum Pounds Purina Omolene Per Day	Recommended Maximum Pounds Omolene Per Day	Recommended Pounds Hay† Per Day
800	2	4.0	12.0	8-12
900	2	4.5	13.5	9-13.5
1,000	2	5.0	15.0	10-15
1,100	2	5.5	16.5	11-16.5
1,200	2	6.0	18.0	12-18

*Or your own mixture of available grains.

†Or an equivalent amount of pasture.

BROOD MARES

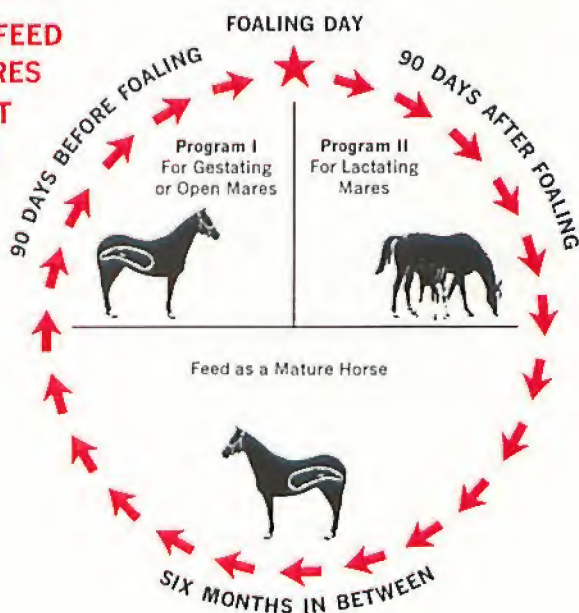
Putting mares in good nutritional condition before breeding helps raise their conception rate and increases their ability to produce milk when their foals are born. Extra attention should be given to brood mares, since they must be bred again soon after foaling.

If Purina Breeding Horse Chow is available in your area, you may prefer to put your mares on the Breeding Horse Chow program described on pages 25-26, instead of mixing Horse Charge with Omolene or your own grains. However, if you want to supply the grain, you will prefer the Horse Charge program. Under circumstances where several mares must be handled together in a limited area, you may prefer

the complete feed program outlined on pages 5-6.

Purina Horse Charge may be used to build two rations for mares. Program I is for open mares and brood mares 90 days before foaling, to put them in better condition to conceive. Program II is for brood mares up to 90 days after foaling, when the demands of lactation are coupled with the need to help the mare recover her body condition for rebreeding. In the six months between lactation and late gestation, the brood mare should be fed as a mature horse, as explained on page 16. When mares are switched to the mature horse program 90 days after foaling, an additional allowance of feed should be provided to maintain body condition. This level should not exceed the maximum amount shown for the mature horse feeding program.

HOW TO FEED BROOD MARES THROUGHOUT THE YEAR



Program I—90 Days Before Foaling

During the last 90 days of gestation, the brood mare should be fed to gain weight equal to the birth weight of the foal she is producing. Start with the minimum amount of Purina Omolene shown for the mare's weight. Levels fed above the minimum will depend

on the amounts of Omolene necessary to achieve a controlled weight gain of about one pound per day. Levels fed should never exceed 1½% of the mare's body weight to avoid colic and founder.

PROGRAM I

Brood Mares—90 Days Before Foaling—for Gestating or Open Mares

Combine Horse Charge with Purina Omolene*; Feed with Hay or Pasture†

Pounds Weight of Mare	Pounds Horse Charge Per Day	Minimum Pounds Purina Omolene Per Day	Recommended Maximum Pounds Omolene Per Day
800	2	4	8
900	2	4.5	9
1,000	2	5	10
1,100	2	5.5	11
1,200	2	6	12

*Or your own mixture of available grains.

†Minimum of 1 lb. hay or pasture equivalent per 100 lb. of body weight.

Program II—90 Days After Foaling

The amount of Omolene shown for the lactating mare provides an additional 7 pounds per day above the maintenance level for gestating mares and mature horses. This combines with the extra pound per day of Horse Charge to meet the mare's body requirements for producing 30 pounds of milk daily. Proportionately more or less will be required by the heavy or light milker.

At no time should you exceed the amounts shown in the MAXIMUM

column. This amount is 1½ pounds per 100 pounds of body weight, which represents the practical limit of the mare's digestive tract capacity.

This points out the need for keeping the brood mare's condition up throughout the year. A thin mare simply cannot eat large amounts of feed quickly enough to get in condition for rebreeding soon after she foals. About the maximum daily gain you can get on her safely is ½ pound per day, if she is a good milker.

PROGRAM II

Brood Mares—90 Days After Foaling—for Lactating Mares

Combine Horse Charge with Purina Omolene*; Feed with Hay or Pasture†

Pounds Weight of Mare	Pounds Horse Charge Per Day	Minimum Pounds Purina Omolene Per Day	Recommended Maximum Pounds Omolene Per Day
800	2	11	12
900	2	11.5	13.5
1,000	2	12	15
1,100	2	12.5	16.5
1,200	2	13	18

STALLIONS

Having stallions in good nutritional condition helps insure their reproductive capability and stamina for breeding. Since it is easier and more economical to maintain a stallion's condition year-round than to bring him back into condition, you should feed him on the mature horse program described on page 16 when not in breeding season.

Ninety days before breeding begins, start the stallion on the program and keep him on it throughout the breeding season. Start with the minimum amount of Purina Omolene shown for the stallion's weight. Levels fed above the minimum will depend on his condition and level of activity. Levels fed should never exceed 1½% of the stallion's body weight to avoid colic and founder.



STALLIONS DURING BREEDING SEASON

Combine Horse Charge with Purina Omolene*

Feed with Hay or Pasture†

Pounds Weight of Stallion	Pounds Horse Charge Per Day	Minimum Pounds Purina Omolene Per Day	Recommended Maximum Pounds Omolene Per Day
800	2	4	12
900	2	4.5	13.5
1,000	2	5	15
1,100	2	5.5	16.5
1,200	2	6	18

*Or your own mixture of available grains.

†Minimum of 1 lb. hay or pasture equivalent per 100 lb. of body weight.



FOALS

There is no finer program of foal nutrition than the Purina Foal Growing Program built with Purina Big 'Un. However, if you wish to utilize your own supply of grain or Omolene, the following foal feeding programs are provided.



PURINA HORSE CHARGE PROGRAMS FOR FOALS

Combine Purina Horse Charge with Purina Omolene*
Feed with Hay or Pasture

SUCKLINGS

Mix a ration of 1 pound of Horse Charge to each 4 pounds of Omolene, and give the foal free access to a supply of this ration at all times.

Note: a creep feeding unit that gives the foals access to the feed while keeping larger horses out should be utilized if foals cannot be individually fed. Creep feeding is discussed on page 22.

WEANLINGS AND YEARLINGS

Pounds Weight	Pounds Horse Charge Per Day	Minimum Pounds Purina Omolene* Per Day	Recommended Maximum Pounds Omolene* Per Day	Pounds Hay Per Day
300-400	1	4	5.5	3- 4
400-500	2	5	6.5	4- 5
500-600	2	6	8.5	5- 6
600-700	2	7	8	6- 7
700-800	2	6	7.5	7- 8
800-900	2	5.5	7	8- 9
900-1,000	2	5	6.5	9-10

*Or your own mixture of available grains.

Start with the minimum amount of Purina Omolene shown for the foal's weight. Levels fed above the minimum will depend on the foal's condition and the desired rate of gain. Higher levels may be fed up to and exceeding the recommended maximum level of Omolene, depending on the foal's ability to tolerate higher levels of feeding without causing digestive disturbances.

As the foal gains weight within the range, you will want to change the amount of Omolene gradually. Avoid abrupt changes in the amounts of Omolene when the foal's weight increases from one range to the next.

It is important that the amount of hay fed should be within the range indicated. Feeding lesser amounts than the minimum shown may lead to digestive disturbances; feeding greater amounts may interfere with the foal's eating an adequate amount of Horse Charge and Omolene.

This program is designed for light horses with mature body weights in the range of 1,000 to 1,200 pounds. After the growing horse reaches the weight of 1,000 pounds shown in the table, it should be fed according to a pro-

gram appropriate for its intended use. The programs for mature horses, performance horses and breeding horses may be found by referring to the index at the front of this book.

Management recommendations for foal growing programs, as well as for general horse feeding and health care are found on succeeding pages.

In most cases the Big 'Un program as outlined on pages 22-24 is recommended for foals, because the use of Big 'Un avoids possible errors in the mixing of feeds plus the tendency to economize by using too little of the more expensive supplement to meet the foal's nutritional requirements.

Suckling foals have a tendency to sort out the pellets of Horse Charge in favor of the sweet-tasting Omolene, thereby missing the added nutrition they require. Also, in Big 'Un it is possible to build in a more precise level and balance of nutrients than by mixing Horse Charge. However, the Horse Charge programs for foals shown here are nutritionally adequate and have the full approval of Purina Horse Research.

A 2-lb. Coffee Can Holds Approximately 2¾-lbs. of Purina Horse Charge

**See page 30 for information on coffee can measurement.*

Nutrient Analysis

Crude protein not less than.....	33.0%
Crude fat not less than.....	2.5%
Crude fiber not more than.....	5.0%
Calcium (Ca) not less than.....	2.5%
Calcium (Ca) not more than.....	3.5%

PURINA HORSE CHARGE

Phosphorus (P) not less than.....	1.9%
Salt (NaCl) not less than.....	3.5%
Salt (NaCl) not more than.....	4.5%
Vitamin A not less than 9,000 I.U./lb.	
Vitamin D not less than 2,000 I.U./lb.	

Ingredients: Soybean meal and/or cottonseed meal and/or linseed meal, dehydrated alfalfa meal, wheat middlings, animal fat preserved with BHA, sucrose, cane molasses, ethoxyquin (a preservative), vitamin A supplement, vitamin E supplement, vitamin B₁₂ supplement, D activated animal sterol, riboflavin supplement, calcium pantothenate, calcium carbonate, potassium chloride, dicalcium phosphate, iodized salt, iron sulfate, copper sulfate, manganous oxide, cobalt carbonate, zinc oxide.



PURINA BIG 'UN

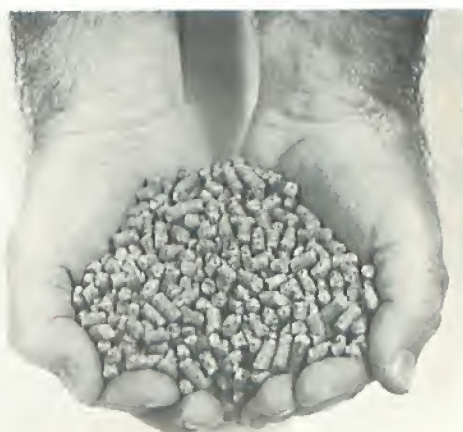
PURINA'S BEST FOAL GROWING FEED

Purina Big 'Un provides all the high quality protein, energy, vitamins and minerals required by suckling, weanling and yearling foals when fed according to the Purina foal growing programs shown. Yearlings over 700 pounds may also be fed on the Purina Omolene Checkers program described on page 14.

SUCKLING FOALS

Suckling foals should have access to Purina Big 'Un by the time they are 2-4 months old so that they can continue developing at their full bred-in potential when the mares' milk output starts its normal decline. It is especially important that suckling foals be exposed to Big 'Un prior to weaning so that they will accept it readily after weaning.

By the time a suckling foal is consuming 2-3 pounds of Big 'Un daily and is 2-3 months old or



weighs 300 pounds, it may be weaned and fed according to the programs shown for weanlings and yearlings. The foal's development will not be retarded compared to foals weaned at a conventional age. In fact if the mare's milk supply is low, early weaned foals will have superior development compared to foals left with poor-milking mares.

Using a "creep feeder" will give suckling foals access to a supply of Purina Big 'Un at all times. A creep feeder like the one pictured is basically an open pen with a



Purina offers free plans for building this creep feeder. Ask your Purina Dealer or write Dept. 247, Checkerboard Square, St. Louis, Missouri 63188.

feed trough inside, except that its entrances are just wide enough to let the smaller horses creep in while the older horses are kept out of the foals' feed.

Creep feeders should be placed in an accessible location and filled each day with only as much feed as the foals will eat that day to maintain freshness. If Big 'Un gets wet, spoils or becomes stale, replace it with a fresh supply.

It is recommended that a health program be instituted early in managing foals. Under most conditions foals should be treated for worms by 2-3 months of age. In some situations earlier worming may become necessary.

WEANLING FOALS

Foals that are accustomed to Big 'Un before weaning and are healthy and relatively free of internal parasites should have no setback when mare's milk is withdrawn. They should gain weight the first week after weaning. By the end of two weeks they should be gaining at the rate of 2-3 pounds per day, and the commonly encountered "rough stage" of growth and poor haircoat will be avoided.

The choice between Program I with Big 'Un and hay or Program II with Big 'Un and no hay should be determined by the cost and availability of quality hay for foals. Program II offers the added benefit of complete dietary control with Purina Big 'Un and Horse Chow Checkers.

Always stay within the recommended daily amounts of feed.

Weanlings should be fed twice daily preferably individually or in small groups. A weanling that shows poor appetite, pain or scouring should receive medical attention and be placed on a reduced level of feeding until its condition improves and then gradually returned to the normal amount of feed.

The choice between the MINIMUM and MAXIMUM feeding levels depends on the use of the horses. If the maximum level of feeding is continued into the yearling year, the horse should obtain 90-95% of its mature size and weight by 18 months of age. If the minimum level is fed, the horse should reach this same level of maturity at about 24 months of age. Normally horses to be sold, shown as weanlings or yearlings, or raced as two-year-olds would be fed at the higher level.

If the amounts shown in the MAXIMUM column are exceeded, the foals' feces may become excessively loose. If this happens the level of feeding should be reduced to avoid this and later possible problems. Restricting the hay too much may also make the feces loose, and this can be avoided by making hay readily available.

Sometimes lush pasture or high quality alfalfa hay causes loose feces. Providing dry, medium quality grass hay will alleviate this problem. It is always advisable to make sure that a parasite or bacterial problem is not the cause when feces are loose.

SUCKLINGS

Suckling foals should be given free access to a supply of Purina Big 'Un at all times. A creep feeder like the

one pictured previously should be utilized if foals cannot be individually fed.

PROGRAM I—Foal Growing Program with Hay or Pasture WEANLINGS AND YEARLINGS

MINIMUM POUNDS			MAXIMUM POUNDS		
Pounds Weight	Purina Big 'Un Per Day	Purina Omolene* Per Day	Purina Big 'Un Per Day	Purina Omolene* Per Day	Pounds Hay Per Day
300-400	5	0	7	0	3- 4
400-500	6.5	0	8.5	0	4- 5
500-600	8	0	10.5	0	5- 6
600-700	9	0	10	0	6- 7
700-800	4	4	5	5	7- 8
800-900	3.5	3.5	4.5	4.5	8- 9
900-1,000	3.5	3.5	4	4	9-10

*If preferred, an equal amount of Big 'Un may be substituted for Omolene in the program.

PROGRAM II—Foal Growing Program With No Hay or Pasture WEANLINGS AND YEARLINGS

MINIMUM POUNDS			MAXIMUM POUNDS	
Pounds Weight	Purina Big 'Un Per Day	Horse Chow Checkers Per Day	Purina Big 'Un Per Day	Horse Chow Checkers Per Day
300-400	4	4	5	5
400-500	5	5	6.5	6.5
500-600	6.5	6.5	7.5	7.5
600-700	7	7	8	8
700-800	4	11	4.5	12.5
800-900	4	11	4.5	12.5
900-1,000	4	11	4.5	12.5

Both Programs I and II are designed for light horses with mature body weights in the range of 1,000 to 1,200 pounds. After the growing horse reaches the weight of 1,000 pounds shown in the table, it should be fed according to a program appropriate for its intended use. The programs for

mature horses, performance horses and breeding horses may be found in the index on page 1.

Yearlings may also be fed on the Purina Omolene Checkers program described on page 14.

A 2-lb. Coffee Can Holds Approximately 2¾-lbs. of Purina Big 'Un

**See page 30 for information on coffee can measurement.*

PURINA BIG 'UN

Nutrient Analysis

Crude protein not less than.....	16.0%	Calcium not less than.....	0.8%
Crude fat not less than.....	2.5%	Phosphorus not less than.....	0.6%
Crude fiber not more than.....	8.0%	Digestible Energy.....	1,500 Cal./lb.
		Vitamins and trace minerals added to meet total requirements.	

Ingredients: Soybean meal and/or cottonseed meal and/or linseed meal, ground yellow corn and/or ground grain sorghums, ground barley and/or ground oats, dehydrated alfalfa meal, wheat middlings, cane molasses, animal fat preserved with BHA, niacin, vitamin B₁₂ supplement, choline chloride, riboflavin supplement, vitamin A supplement, calcium pantothenate, vitamin E supplement, D activated animal sterol, dicalcium phosphate, calcium carbonate, salt, calcium iodate, ferrous sulfate, ferrous carbonate, iron sulfate, copper sulfate, manganous oxide, copper oxide, cobalt carbonate, zinc oxide.



PURINA BREEDING HORSE CHOW

COARSE FORM RATION FOR MARES AND STALLIONS



The main benefit of a breeding horse feed is a bigger, more valuable foal. Just as good breeding starts with careful selection of the sire and dam, good feeding starts by putting the mare and stallion in good shape nutritionally.

Good nutrition can help brood mares raise their conception rate and increase their ability to produce milk when their foals are born. Having stallions in good nutritional condition helps insure their reproductive capability and stamina for breeding.

Purina Breeding Horse Chow is formulated to provide additional protein, vitamins and minerals to meet the special needs of breeding horses during active stages of reproduction. No further di-

etary supplementation is required when these programs are utilized.

It is easier and more economical to maintain a breeding horse's condition year-round than to try to put one in condition before breeding starts. For this reason you should feed brood mares and stallions according to the Purina Omolene program described on page 9 during the six months when they are not in season. When mares are switched to the mature horse program 90 days after foaling, an additional allowance of feed should be provided to maintain body condition. This level should not exceed the maximum amount shown for the mature horse feeding program.

Additional information on feeding breeding horses may be found under separate programs. If you wish to supply your own grains, you may want to employ the Purina Horse Charge program for brood mares outlined on page 17. Under circumstances where several mares must be handled together in a limited area, you may prefer the Omolene Checkers program on pages 12-13 if you want to provide the roughage, or the complete feed program outlined on pages 5-6 which requires no additional roughage.

BROOD MARES

Start with the minimum amount shown for the mare's weight. Levels fed above the minimum will depend upon the condition of the mare and the availability

of alternative feedstuffs. Levels fed should not exceed the maximum shown, which is approximately 1½% of the mare's body weight, to avoid colic and founder.

PROGRAM I

Brood Mares—90 Days Before Foaling
Program for Gestating or Open Mares
Feed with Hay or Pasture†

Lbs. Wt. of Mare	Min. Lbs. Breeding Horse Chow Per Day	Recommended Max. Lbs. Breeding Horse Chow Per Day
800	5	9
900	5.5	10
1,000	6	11
1,100	6.5	12
1,200	7	13

PROGRAM II

Brood Mares—90 Days After Foaling
Program for Lactating Mares
Feed with Hay or Pasture†

Lbs. Wt. of Mare	Min. Lbs. Breeding Horse Chow Per Day	Recommended Max. Lbs. Breeding Horse Chow Per Day
800	12	13
900	12.5	14.5
1,000	13	16
1,100	13.5	17.5
1,200	14	19

†Minimum of 1 lb. hay or pasture equivalent per 100 lb. of body weight.

STALLIONS

Stallions should be maintained on the Omolene program for mature horses and switched to the Breeding Horse Chow Program 90 days before breeding

begins. Start with the minimum amount of Breeding Horse Chow shown for the stallion's weight. Levels fed above the minimum will depend on his condition and level of activity. Levels fed should never exceed 1½% of the stallion's body weight to avoid colic and founder.

STALLIONS DURING BREEDING SEASON

Feed with Hay or Pasture†

Pounds Weight Of Stallion	Minimum Pounds Breeding Horse Chow Per Day	Recommended Maximum Pounds Breeding Horse Chow Per Day
800	8	12
900	9	13.5
1,000	10	15
1,100	11	16.5
1,200	12	18

†Minimum of 1 lb. hay or pasture equivalent per 100 lb. of body weight.

A 2-lb. Coffee Can Holds Approximately 2-lbs. of Purina Breeding Horse Chow

*See page 30 for information on coffee can measurement.

PURINA BREEDING HORSE CHOW

Nutrient Analysis

Crude protein not less than.....12.5%
Crude fat not less than.....2.5%
Crude fiber not more than.....11.0%

Ingredients: Soybean meal and/or cottonseed meal and/or linseed meal, cracked yellow corn and/or ground grain sorghums, rolled barley and/or crimped oats, alfalfa meal, wheat bran, wheat middlings, cane molasses, vitamin A supplement, vitamin E supplement, D activated animal sterol, vitamin B₁₂ supplement, calcium pantothenate, choline chloride, dicalcium phosphate, calcium carbonate, iodized salt, iron oxide, manganous oxide, copper oxide, cobalt carbonate, zinc oxide.

Calcium not less than.....0.7%
Phosphorus not less than.....0.45%
Digestible Energy.....1,500 Cal./lb.
Vitamins and trace minerals added to meet total requirements.



HORSES ON PASTURE

The proper way to feed horses on pasture is to treat the pasture as a roughage source, not as the only supply of nutrition. If you want to use available pasture, Purina offers several programs that are designed to meet the nutritional needs of horses classified by their activity—programs for performance horses, brood mares and stallions, and growing foals, weanlings and yearlings.

These may be found by consulting the index on page 1.

In addition, you have a choice of two pasture programs for mature horses using Purina Omolene (see page 9) or Purina Horse Charge (see page 16). If you are not feeding any balanced ration in addition to your pasture, then Purina Horse Block and Purina Horse Mineral 12:12 are recommended.

PURINA HORSE BLOCK



Purina Horse Block is a 33½-pound block that can be fed right on the ground. Its purpose is to provide supplemental protein in addition to the vitamins and minerals lacking in spring grass or coarse pasture.

Each horse will eat up to five pounds of Horse Block per day normally. If horses exceed this, it would be more economical to feed Omolene, Omolene Checkers, Horse Chow Checkers or Breeding Horse Chow, depending on their activity. Preferably Purina Horse Block should be sheltered from weather and close to a supply of fresh, clean water

PURINA HORSE BLOCK

Nutrient Analysis

Crude protein not less than.....	12.5%	Phosphorus (P) not less than....	0.5%
Crude fat not less than.....	2.0%	Iodine (I) not less than.....	0.0002%
Crude fiber not more than.....	8.0%	Salt (NaCl) not less than.....	12.5%
Calcium (Ca) not less than.....	0.75%	Salt (NaCl) not more than.....	15.0%
Calcium (Ca) not more than.....	1.75%		

Ingredients: Ground yellow corn and/or ground grain sorghums, soybean meal and/or cottonseed meal and/or linseed meal, cane molasses, wheat middlings, alfalfa meal vitamin A supplement, dicalcium phosphate, calcium carbonate, iodized salt, iron oxide, manganese oxide, copper oxide, cobalt carbonate, zinc oxide.



PURINA HORSE MINERAL 12:12

Purina Horse Mineral 12:12 is a mineral supplement for use primarily when horses are on a straight hay program and no grain is being fed. However, Horse Mineral 12:12 can also be used in any program when provided free-choice with plain salt.

The "12:12" in Purina Horse Mineral 12:12 means it contains 12% calcium and 12% phosphorus, as well as added trace minerals. This makes Horse Mineral 12:12 especially important with hay made from legumes—alfalfa or clover. If the hay does not have enough protein, you should feed instead a supplement that also contains protein, such as Purina Horse Block or Purina Horse Charge.

Purina Horse Mineral 12:12 is a loose, granular form mineral that looks like reddish-brown salt. For this reason it should be fed in something that keeps it from blowing away or getting wet. It comes in 25-pound paper bags with a handle on top.



PURINA HORSE MINERAL 12:12

Nutrient Analysis

Calcium (Ca) not less than.....	12.0%
Calcium (Ca) not more than.....	14.0%
Phosphorus (P) not less than.....	12.0%
Iodine (I) not less than.....	0.0003%
Salt (NaCl) not less than.....	4.5%
Salt (NaCl) not more than.....	5.5%

Ingredients: Calcium carbonate, dicalcium phosphate, iodized salt, ferrous carbonate, manganese oxide, cobalt carbonate, copper oxide, ferric oxide, zinc oxide, magnesium oxide, cane molasses, cottonseed meal, wheat middlings.



HORSE MANAGEMENT

The need for good management in a horse operation is pointed out by the fact that founder and colic, two severe maladies affecting horses, are largely management-related. You can achieve sound management by following the general management recommendations given here and by practicing the principles of good horsemanship.

Some of the unsoundnesses and illnesses common to horses are related to how they are fed. In most cases these abnormalities are not caused solely by nutrition, but they can be influenced by good nutrition. Purina's recommendations for these conditions are explained in the section on Specific Problems Influenced by Nutrition.

GENERAL MANAGEMENT RECOMMENDATIONS FOR FEEDING HORSES

Social problems may occur when horses are fed too close together. These may be minimized by putting feed in several smaller boxes instead of one large one and by arranging them in a circle with about 30 feet between each box. Providing more feed boxes than there are horses assures that even timid horses will have a place to eat.

Provide Plenty of Fresh, Clean Water—Horses require a minimum of 3 pounds of water for each pound of dry matter they eat. Since a gallon of water weighs about 8 pounds, a horse that eats 20 pounds of feed including pasture will need approximately 60 pounds of water, which is a minimum of 7½ gallons per day. As a rule of thumb,

you can figure: A horse needs ½ gallons of water for each pound of feed.

Feed at Regular Times—Feeding at the same times every day makes the horse form regular eating habits to overcome his innate tendency to gnaw. This tendency is responsible for many stable vices including wood chewing. If the horse eats too fast, this also contributes to the problem. Putting large objects, such as rocks the size of baseballs, in the feed box helps slow the rate of feeding.

Feed in a Natural Position—Putting the feed box at shoulder height or below makes the horse eat in a natural position. If the feed box is too high, hay dust can irritate its eyes and lungs.



COFFEE CAN MEASUREMENT

The only way to feed a horse accurate amounts is to weigh the feed. Volume measures, such as a coffee can, will vary in weight depending on moisture content and density of the material being weighed.

If you use a coffee can for convenience, always make sure the can is full. Sometimes when dipping feed, the can gets only partially full and does not give the horse his full daily amount.

SPECIFIC PROBLEMS INFLUENCED BY NUTRITION

Laminitis (founder)—Laminitis is an inflammation of the laminae or fleshy leaves inside the hoof. It usually occurs in both front feet and is extremely painful. The horse stands with its front feet out and the hind feet up under its body, trying to take as much weight off the front feet as possible and put it onto the hind feet. In the case of acute laminitis, which involves all four feet, the animal places all feet beneath the body or is recumbent.

Proper feeding, foot care and exercise are the best preventive measures. The most common cause of laminitis is overfeeding

and lack of exercise. Other causes include ingestion of cold water by a hot animal, excessive use on hard surfaces, hard work by an unconditioned animal, and toxemia resulting from retained placenta by brood mares. In ponies and heavier breeds of horses, lush spring pasture may be responsible for a form of laminitis called grass founder. Founder caused by overfeeding is definitely a management problem.

To Prevent Founder:

- Do not put out too much feed at one time.
- Do not place horses on a grain

feed too rapidly.

- Provide adequate feeder space for each horse, if horses must be fed in a group.
- Provide sufficient roughage, hay or pasture.

Some control of founder can be accomplished through the use of Purina Horse Chow Checkers, which contains the roughage required by the horse to dilute the intake of grain. This treatment will not effect a cure for chronic laminitis—it serves only to relieve pain and symptoms.

Colic—Colic is a general term for a stomach-ache in horses. As soon as a horse colics, you should take him off feed and call the veterinarian. Colic is due to specific disease conditions of the digestive and genital urinary systems. If colic is caused by bacterial infection, (enteritis), it usually progresses rapidly toward death.

Vomiting is a sign of acute gastric dilatation. In many cases colic of this type could have been prevented by better management of the feeding program. The list of causes shown here is by no means all-inclusive, but it can be used as a starting point for a program of good feeding management.

Causes of Colic

- Excessive gas production in the stomach, cecum or large intestine. Gas colic is often caused by eating too much grain or succulent legumes which

results in rapid gas formation and the production of excess acids, which leads to stasis of the tract.

- Impaction: an accumulation of a mass of material that plugs up the digestive tract. Impaction can be caused by ingestion of highly indigestible material, such as very low quality hay, lack of water or no exercise.
- Aneurysm: a ballooning of the wall of a blood vessel supplying the digestive tract. Causes for an aneurysm of the blood vessels supplying the digestive tract may include parasite damage, genetic weaknesses, injury, and torsion or volvulus, any twisting of the intestine causing obstruction. The best way to prevent aneurysm is to control parasites from birth on.
- Stasis of the intestinal or alimentary tract: occurs when peristalsis, the normal squeezing motion of the intestines which moves food through the digestive system, is interrupted.
- Superpurgation: diarrhea, often caused by spoiled feed which contains toxins produced by mold or bacteria.
- Cribbing: (wind swallowing) the vice or unpleasant habit of swallowing gulps of air.

Heaves—Heaves or alveolar emphysema is a respiratory disorder resulting from a loss of elasticity of the lungs or inflammation of the bronchioles. There is some

thought that heaves may be an allergy disease.

A horse with heaves must make an effort to force the air out of his lungs by contracting his abdominal muscles. The horse usually has a short, dry cough, flared nostrils and is short of breath after light exercise.

Purina Horse Chow Checkers may give some relief to a horse with heaves by reducing the irritation caused by mold and hay dust. The Horse Chow Checkers program for mature horses may be found on page 3.

Dental Problems—A dental examination should be performed two to four times a year, depending on the horse's age and the ration made available to him. At times a horse's teeth may need to be floated. There are a number of dental occlusions or abnormalities which may affect the horse's ability to eat, including shear mouth, step mouth, smooth mouth and parrot mouth. The horseman should be on the lookout for these conditions especially in foals.

In some conditions such as parrot mouth, in which the upper jaw overhangs the lower, the biting teeth do not meet. Thus the horse

has difficulty grazing or eating forage that must be bitten off. If biting is difficult but chewing is not a problem, Horse Chow Checkers may benefit the horse by eliminating the need to bite roughage.

Epiphysitis—Epiphysitis is a condition often referred to as "big" or "double" knees. It commonly occurs in foals and yearlings, affecting the knees to give them a big or double-jointed appearance. It may also cause a non-specific lameness which shows up at one joint, not necessarily a knee, and then disappears and shows up later at another joint. This is called a "shifting" lameness. Epiphysitis may also be responsible for hair-line fractures and bone chips in the knee or other joints.

Epiphysitis can be controlled by carefully controlling the amounts and balance of calcium, phosphorus and Vitamin D fed to the young developing horse. This can be accomplished by carefully following the Purina Foal Growing Program outlined on page 24. This program also promotes general fitness along with optimum muscle and bone development in the growing foal.



PURINA® HORSE CARE PRODUCTS



A good program of horse nutrition and health care go hand in hand. When you follow both a good feeding program and a good health care program, you put to use all the horse management practices recommended by Purina Horse Research. In addition to producing Purina Horse Chows, Ralston Purina Company has developed a line of health products for

horses that allows you to follow one of the best *total programs* in the American equine industry.

The products described on the following pages are the result of years of testing, retesting, rejecting and developing which today assures you that when you buy a Purina Horse Health Product, you have the best.

INTERNAL PARASITE CONTROL

Any age horse, from newly dropped foal to adult, is almost certain to be infested with some type of internal parasites due to constant reinfection from grazing. Worms suck blood, sap strength and rob the nutrients

your horse needs to grow fully and perform at his best. There is no way to avoid these dangerous parasites, but Purina wormers offer an excellent way to control and eliminate them.

Purina Horse Wormer Medicated with Thiabendazole* controls large and small strongyles, pinworms and threadworms. Purina Horse Wormer is a feed mix product for easy worming. Recommended for adult horse only, it should not be given to foals less than one year old.

*Reg. TM Merck & Co.

Purina Colt and Horse Wormer, a piperazine concentrated and **Purina Ban-Worm**, a pyrantel tar-

trate product are both effective against large and small strongyles, ascarids and pinworms. Colt and Horse Wormer may be administered to horses of all ages and specifically those less than a year old. Ban-Worm may also be given to foals plus pregnant mares. Both are mixed with the feed.

Purina Bot Control contains trichlorphon and is effective against bots.

PURINA WORMING PROGRAM

A general program is suggested as treatments may be necessary at monthly intervals or, as infrequently as twice a year. The number of treatments depends on level of parasitism and probability of reinfestation on pasture.

FOALS

When creep feeding, worm with Colt and Horse Wormer or Ban-Worm. Repeat twice at two-month intervals.

YEARLINGS, TWO-YEAR OLDS, MATURE HORSES

A periodic fecal examination will determine the need for any special worming program. A general program would be to worm two to six times per year alternating the use of Purina horse wormers at two-month intervals.

MARES

Do not treat within one month of foaling.

QUESTION:

Why offer three wormers which overlap in activity?

ANSWER:

1. Some wormers may be recommended for mature horses but not for young ones, ie. Horse Wormer Medicated is not recommended for foals.
2. Some ingredients are particularly active against one parasite with secondary effectiveness against others (piperazine is primarily effective against large roundworms. The "strong suit" of thiabendazole is its activity against strongyles.)
3. Like flies and other *external* parasites, internal parasites can develop resistance to one wormer used exclusively. Therefore, Purina recommends *alternating* the three wormers for maximum efficiency.

PURINA HORSE WORMING PRODUCTS

Product	Effective Against					
	Ascarids	Large Strongyles	Small Strongyles	Pin-worms	Thread-worms	Bots
Colt & Horse Wormer (piperazine)	X	X	X	X		
Ban-Worm for Horses (pyrantel tartrate)	X	X	X	X		
Horse Wormer Medicated (Thiabendazole)		X	X	X	X	
Bot Control for Horses* (trichlorophen)	X			X		X

*Use Bot Control in late fall or winter. An additional treatment for bots in early spring may be advisable to insure complete removal of all bots prior to fly season.

MANAGEMENT RECOMMENDATIONS FOR PARASITE CONTROL

1. Feed Chow, grain and hay from bunks or racks off the ground to prevent contamination.
2. Prevent fecal contamination.
3. Remove manure from small paddocks at least once a week.
4. Do not allow horses to graze pastures on which fresh horse manure has been spread.
5. Rotate pastures if possible.
6. Maintain clean, dry stalls.
7. Worm newly purchased horses prior to release in permanent pasture.

INSECT CONTROL

Stable flies, hornflies, mosquitoes, lice and ticks are annoying insects to horses. They can cause horses to become seriously ill and even die if not controlled. Purina offers a wide variety of insecticides for an effective insect control program. Some have been developed specifically for horses and others are general livestock insecticides which can be used in a horse insect control program. Remember, insects can build up a resistance to some insecticides; therefore, any insect control program should contain several different insecticides to kill even the most resistant of insects.

PURINA HORSE SPRAY CONCENTRATE

A concentrate insecticide for controlling numerous flying and crawling insects common to horses. Horse Spray Concentrate can be applied through a sprayer or by hand using a wiping cloth. Consult the product label for specific use instructions and recommended application intervals.

PURINA RUB-ON HORSE INSECTICIDE

A ready-to-use, oil-based insecticide for direct rub-on application. Contains fly killer, fly repellents and a blend of grooming oils.

INSECT CONTROL PRODUCTS

Individual Horse Treatment

Method of Application	Pests Controlled	Product to Use	How to Use	Age Restrictions
Wipe On	Flies, Mosquitoes, Gnats	Rub-On Horse Insecticide	Ready-to-use	None
Sponge On	Flies, Mosquitoes, Gnats, Lice	Horse Spray Concentrate	1 pt. in 1 gal. of water	None
	Hornflies, Lice, Ticks	Co-Ral Wettable Powder	1 oz. (6 table-spoonfuls in 3 gals. of water.	Do not apply to foals less than 3 months of age.
Dust On	Hornflies, Lice, Ticks	Insect Killer	Ready-to-use	Do not apply to foals less than 3 months of age.
Spray On	Flies, Mosquitoes, Gnats, Lice	Horse Spray Concentrate	1 pt. (16 ozs.) in 4½ qts. of water.	None
	Hornflies, Lice, Ticks	Co-Ral Wettable Powder	½ oz. (3 table-spoonfuls) in 1½ gals. of water.	Do not apply to foals less than 3 months of age.
		Malathion Spray	1¼ oz. (2½ tablespoonfuls) in 1 gal. of water.	Do not apply to foals less than 1 month old.
Pressurized Can Sprays	Flies, Mosquitoes, Gnats	Fly-Bye [®]	Ready-to-use	None
		Face & Horsefly Bomb	Ready-to-use	None

*Caution: Wear rubber gloves when sponging horses with Co-Ral Powder.

Herd Treatment

Method of Application	Pests Controlled	Product to Use	How to Use	Age Restrictions
Spray	Hornflies, Lice, Ticks	Malathion Spray	1 qt. in 25 gals. water.	None
		Co-Ral Wettable Powder	1 to 2 lbs. in 50 gals. of water.	Do not spray foals less than 3 months of age.

ENVIRONMENTAL INSECT CONTROL

No insect control program will work satisfactorily if the horses' living environment is not sprayed routinely for insects. While there is no special insecticide available for regular use in and around stable areas, there are a number of general livestock insecticides available.

MOSQUITO CONTROL PROGRAM

**to aid in the control of
Venezuelan Horse Sickness
Equine Encephalomyelitis**

In 1971 Venezuelan Equine Encephalomyelitis spread into the United States from Mexico and South America. The disease kills over 50% of the horses it strikes. An infected horse usually runs a high temperature, walks aimlessly in circles until it collapses and dies after violent spasms.

The disease causes influenza-like symptoms in people, but is not considered serious for humans.

Mosquitoes spread the disease from horse to horse or from horse to humans.

Horse owners can help prevent a recurrence of this national emergency by using all preventive measures available to protect horses from mosquitoes.

Management

1. Confine horses in stables during evening hours.
2. Eliminate mosquito breeding areas by proper drainage of wet lands and disposing of containers

which collect rain water.

3. Follow a complete spraying program.

PURINA INSECTICIDES

Residual Building Sprays

Purina Malathion Spray

Purina Spray and Dip

Stable and Corral Fogging—

Purina Vapona Insecticide Spray Concentrate (mixed with oil)

Stable Fogging—Purina Vapona Insecticide Spray Concentrate (mixed with oil)

Purina Insecticide Mist (ready to use)

Stable Misting—Purina Insecticide Mist (ready to use)

Corral Misting—Purina Vapona Insect Spray Concentrate (to be mixed with water)

Confined Stable—Purina Insect Strip

Animal Treatments

For temporary relief of mosquitoes

Purina Rub-On Horse Insecticide (ready to use)

Purina Face and Horsefly Bomb (Pressurized)

Spray Applications (to be mixed with water)

Purina Horse Spray Concentrate—repeat at 2 week intervals or as needed.

Purina Horse and Livestock Spray Concentrate—repeat at 2 week intervals or as needed.

Purina Malathion Spray for Horses—repeat at 2 week intervals

RESIDUAL SURFACE SPRAYS

Applied by means of hydraulic sprayer or compressed air sprayer. Surfaces sprayed should include walls, ceilings, posts and fences. Usual application rate is 1 gallon of mixed spray solution to 500-1000 square feet. (just short of the point of run-off) Horses should be removed from buildings prior to spraying and feedstuffs and water devices should be covered.

Purina Ravap** Insecticide—1 quart in 6¼ gallons of water.

Purina Rabon** Insecticide—1 pound in 6¼ gallons of water.

Purina Cygon** 2E Insecticide—1 quart in 6¼ gallons of water.

Purina Spray and Dip—1 quart in 6¼ gallons of water.

SPACE SPRAYS

Applied by means of Purina Atomist Sprayer or comparable equipment. Use daily or as needed. Fly control will be more effective if stable can be closed during period of application.

Purina Insecticide Mist—ready to use.

Purina Vapona** Insect Spray Concentrate—1 pint in 7 gallons of oil (4⅔ tablespoonfuls per gallon) for fogging stables.

MAGGOT CONTROL

Prevent fly breeding through proper handling of manure and soiled bedding. Spraying manure piles with a larvicide solution will aid in controlling fly breeding until manure can be properly disposed.

Purina Liquid Fly Larvicide—1 gallon in 25 gallons of water.

Purina Cygon 2E Insecticide—1 gallon in 20 gallons of water.

Purina Ravap Insecticide—1 gallon in 25 gallons of water.

FLY BAITS

Aids in reducing house flies. Bait should be scattered on ground areas where flies congregate.

Purina Fly Bait (Dry Killer or Sugar Base)

Purina Fly Bait

Purina Fly Bait Granules

SPECIALTY TREATMENT PRODUCTS

PURINA HORSE LINIMENT

A special formula that helps relieve aches and pains in superficial tissues and muscles due to strenuous exercise, overwork, exposure or minor bruises. Use where heat and massage are indicated to aid in increased circulation to affected part.

PURINA SCARLET OIL SPRAY

Scarlet Oil Spray is an aerosol spray for cuts and abrasions—

stops pain and itching, inhibits bacteria and fungus, and stimulates healing.

PURINA HOOF CONDITIONER

Purina Hoof Conditioner is an excellent dressing for treating and preventing dry, brittle or cracked hooves, soles and frogs. Clean entire foot and apply generously to all parts using hand massage.

VITAMIN-MINERAL SUPPLEMENTS

Ralston Purina manufactures one of the most nutritionally complete lines of horse rations available. Each being nutritionally complete, there is no need for further supplementation with additional nutrients. If, however, you are not on one of the Purina feeding programs outlined in this book, you may be feeding a ration with questionable nutritional value.

Purina's vitamin-mineral supplements have been developed and tested by Purina Research to meet the needs of stressed horses or horses not on a regular Purina horse feeding program. They provide vitamin-mineral 'insurance' to rations of questionable nutritional value.

HORSE-PLUS® LIQUID

A vitamin fortified wheat germ oil, each ounce contains:

25,000 USP units Vitamin A
2,000 USP units Vitamin D₂
50 USP units Vitamin E

A recommended supplement program would be:

Mares—Feed 3 ounces twice

weekly on the feed before breeding and during gestation.

Stallions—Feed 3 ounces twice weekly during entire breeding season beginning one month before first service.

Race & Show Horses—Feed two tablespoons daily on the feed.

Foals, Saddle Horses, Ponies—Feed one tablespoon daily on the feed.

PURINA HORSE-PLUS®

A high potency, extremely concentrated vitamin-mineral formula. Each pound contains:

400,000 USP units Vitamin A
8,000 USP units Vitamin D₂
800 I.U. Vitamin E
92 mg. pantothenic acid
4 important B vitamins

and numerous essential trace minerals. An exclusive manufacturing process separates vitamins into green pellets and minerals into brown pellets. Two ounces of Horse-Plus should be top fed or hand mixed into each animal's daily ration.

PROPERTY MAINTENANCE

Numerous items used in connection with keeping and using horses are made of wood and leather. Unless properly cared for, they can be extremely short-lived.

PURINA ANTI-CRIB

Anti-Crib is a ready-to-use product for spraying or painting wooden surfaces to prevent chew-

ing by horses. When applied according to directions, Anti-Crib effectively discourages horses from chewing wood and damaging stalls, fences and other items of wood construction. It makes wood smell and taste extremely unpalatable to horses. Will not discolor wooden surfaces when applied with a sprayer or by brush. A must for those winter

months when horses are usually confined to stalls during cold weather.

PURINA LEATHER CONDITIONER

Leather Conditioner removes surface dirt and grime from saddles, bridles, harnesses and other leather products while softening and shining the leather. Spray directly onto area to be cleaned

and rub with a soft, dry cloth until foam disappears. Polish with clean, dry cloth.

Keeping a horse well on the inside will have a lot to do with the way he looks on the outside. If he is well-nourished and free of parasites, he's got most of what it takes for a good appearance. These grooming products add the final touches.

HORSE GROOMING

PURINA HORSE SHAMPOO

Purina Horse Shampoo is a liquid shampoo for cleaning the hair coat. It is formulated to prevent immediate runoff or loss of shampoo when applied to the back or sides of the animal. To clean, deodorize and condition the hair coat use Purina Horse Shampoo as follows:

1. Wet horse thoroughly with lukewarm water.
2. Apply a small amount of Purina Horse Shampoo directly to the hair coat.
3. Rub to produce abundant lather. Add more water if neces-

sary to increase lathering.

4. Rinse hair coat with clean water.

5. Repeat shampooing as needed.

PURINA HORSE GLEAM

Purina Horse Gleam is a safe, non-irritating blend of five grooming oils and lanolin ester formulated to improve the lustre and brightness of coat, mane and tail of horses. Remove dust from horse by combing or brushing. Apply Purina Horse Gleam with a cloth slightly moistened with the product. Use 1 to 2 ounces of Horse Gleam per animal.

*Co-Ral Reg. U.S. Pat. Off. by Farbenfabriken Bayer, A.G.,
Chemagro Corporation Licensee

**Vapona Reg. Trademark Shell Chemical Company

***Cygon Reg. Trademark American Cyanamid Company





Ralston
Purina

Dr. Les Breuer talks straight about Purina Horse Chows and Oats.



■ Let's face it, Nature hasn't given us a single grain better for horses than straight oats. Oats are a good source of protein and energy. Since they are lower in energy than most common feed grains, oats are less likely to founder a horse that overeats, and they may be used to keep underworked horses from getting too fat. But even oats don't have the proper balance of vitamins and minerals for the horse nor do they furnish enough protein or energy for optimum work performance, growth or breeding.

The challenge for research nutritionists at Purina or any institution is to take Nature's feedstuffs and combine them to make them more effective for the horse and more useful to the horseman. Purina has and will continue to apply research in the formulation of Horse Chows to make the most nutritionally adequate and highest quality feeds available to horses throughout the country.

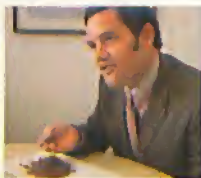
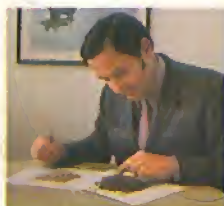
Purina's responsibility to you and America's horse industry is to take the leadership in conducting nutritional research. This responsibility does not stop with simple product comparisons. As far as I am concerned, our responsibility to the equine industry is just beginning.

I promise you: if you put your horses on a Purina Horse Chow program now, you will see how we at Purina can continually improve some of the world's best horse feeds.

Sincerely,

Leslie H. Breuer

Leslie H. Breuer, Jr., Ph.D.
Manager, Purina Horse Research



Ralston Purina
Company